Poenaru, D., et.al. (2021). Mortality from gastrointestinal congenital anomalies at 264 hospitals in 74 low- income, middle- income, and high- income countries: a multicentre, international, prospective cohort study. **The Lancet**, 398(10297), pp.325- 339.

16. Wright, N.J., Thyoka, M., Kiely, E.M., Pierro, A., De Coppi, P., Cross, K.M., et.al. (2014). The outcome of critically ill neonates undergoing laparotomy for necrotising enterocolitis in the neonatal intensive care unit: a 10- year review. **Journal of Pediatric Surgery**, 49(8), pp.1210- 1214.

Authors' Statement:

- On the behalf of the authors, all authors contributed to manuscript writing and approved final version. While we believe that this manuscript fulfills the journal's specifications, aims, and values, we can confirm that this work is original and has not been published, nor is it currently under consideration for publication elsewhere. There are no prior publications or submissions with any overlapping information, including studies and patients.
- We have no conflicts of interest nor financial relations to disclose.

surgical intervention. Furthermore, they found that mortality was significantly correlated to surgical intervention.

In the current study, it was found that TOF and CDH specifically and GIT surgery generally correlated significantly with higher mortality.

Worldwide, and along the years, mortality from CDH did not improve massively, even in centres where extracorporeal membrane oxygenation (ECMO) is available Thiagarajan et.al. (2016)[12]. Furthermore, Lum et.al. (2022)[8] concluded from their 16 years retrospective cohort, that survival in CDH patients is largely dependent on severity of the case, lung maturity, timing of presentation, early detection and general condition.

Furthermore, Alslaim et.al. (2020)[2] reported high and variable mortality from TOF in LMIC (ranging from 30- 80%). Additionally, in a study conducted in Nigeria, Ilori et.al. (2013)[7] reported 100% mortality in neonates with TOF.

In the current study, invasive ventilation >48 hours and central line insertion were risk factors that correlated significantly to mortality. On performing regression analysis, only the central line insertion was significantly correlated to mortality. This might point that sick babies are more prone to death, however, this needs further studies to be confirmed. Note to mention, Ammar et.al. (2020)[3] reviewed data of neonatal surgery over 7 years. They concluded that the need of preoperative intubation and duration of surgery> 2 hours, correlated significantly with mortality regardless the type of surgery. Furthermore, Withers et.al. (2021)[14] in their study in South Africa, found that gram- negative sepsis was a major contributing factor to both morbidity and mortality in neonatal surgery outcomes.

On the contrary, Garcia et.al. (2019)[6] concluded that poor outcomes in babies with central lines are related more to their underlying disease and their general conditions rather than the presence of central line itself.

Study Limitations:

The current study has the usual limitations of observational studies, where correlation rather than causation could be identified. However, retrospective studies still can highlight certain risk factors or problems that can be a base for future studies.

Conclusion:

Our study reports that prematurity, GIT pathology, invasive ventilation> 48 hours and insertion of central line were correlated with higher mortality. However, further prospective studies are highly recommended to confirm their exact impact and the causation relation to neonatal outcome.

References:

1. Abdelgawad, M.A., Parambi, D.G., Ghoneim, M.M., Alotaibi, N.H., Alzarea, A.I., Alanazi, A.S., et.al. (2022). A meta analysis showing the effect of surgical site wound infections and associated risk factors in neonatal surgeries. **International Wound Journal**.
2. Alslaim, H.S., Banooni, A.B., Shaltaf, A. and Novotny, N.M. (2020). Tracheoesophageal fistula in the developing world: are we ready for thoracoscopic repair? **Pediatric surgery International**, 36(5), pp.649-654.
3. Ammar, S., Sellami, S., Sellami, I., Hamad, A.B., Hbaieb, M., Jarraya, A., et.al. (2020). Risk factors of early mortality after neonatal surgery in Tunisia. **Journal of Pediatric Surgery**, 55(10), pp.2233-2237.
4. Bollyky, T.J., Templin, T., Cohen, M. and Dieleman, J.L. (2017). Lower- income countries that face the most rapid shift in noncommunicable disease burden are also the least prepared. **Health affairs**, 36(11), pp.1866- 1875.
5. El- Shimi, M.S., Abd El- Aal, N.E.M. and Mohamed, M.S. (2018). A 3 years' experience of operated surgical neonates' outcome in a tertiary hospital of Ain Shams University (neonatal intensive care unit). **QJM: An International Journal of Medicine**, 111(suppl_1), pp.hcy 200-157.
6. García, H., Romano- Carro, B., Miranda- Novales, G., González-Cabello, H.J. and Núñez- Enríquez, J.C. (2019). Risk factors for central line- associated bloodstream infection in critically ill neonates. **The Indian Journal of Pediatrics**, 86(4), pp.340.
7. Ilori, I.U., Ituen, A.M. and Eyo, C.S. (2013). **Factors associated with mortality in neonatal surgical emergencies in a developing tertiary hospital in Nigeria**.
8. Lum, L.C.S., Ramanujam, T.M., Yik, Y.I., Lee, M.L., Chuah, S.L., Breen, E., et.al. (2022). Outcomes of neonatal congenital diaphragmatic hernia in a non- ECMO center in a middle- income country: a retrospective cohort study. **BMC pediatrics**, 22(1), pp.1- 10.
9. Saggers, R.T., Ballot, D.E. and Grieve, A. (2020). **An analysis of neonates with surgical diagnoses admitted to the neonatal intensive care unit at Charlotte Maxeke Johannesburg Academic**.
10. Sarin, N. (2019). Considerations for neonates and children as a vulnerable research population. Handbook of Pediatric Retinal OCT and the Eye- Brain Connection E- Book, 85. Hospital, South Africa. **South African Medical Journal**, 110(6), pp.497- 502.
11. Segal, I., Kang, C., Albersheim, S.G., Skarsgard, E.D. and Lavoie, P.M. (2014). Surgical site infections in infants admitted to the neonatal intensive care unit. **Journal of pediatric surgery**, 49(3), pp.381- 384.
12. Thiagarajan, R.R., Barbaro, R.P., Rycus, P.T., Mcmullan, D.M., Conrad, S.A., Fortenberry, J.D. et.al. (2017). Extracorporeal life support organization registry international report (2016). **ASAIO journal**, 63(1), pp.60- 67.
13. Ullrich, S.J., Kakembo, N., Grabski, D.F., Cheung, M., Kisa, P., Nabukenya, M., et.al. (2020). Burden and outcomes of neonatal surgery in Uganda: results of a five- year prospective study. **Journal of Surgical Research**, 246, pp.93- 99.
14. Withers, A., Cronin, K., Mabaso, M., Brisighelli, G., Gabler, T., Harrison, D., et.al. (2021). Neonatal surgical outcomes: a prospective observational study at a Tertiary Academic Hospital in Johannesburg, South Africa. **Pediatric Surgery International**, 37(8), pp.1061- 1068.
15. Wright, N.J., Leather, A.J., Ade- Ajayi, N., Sevdalis, N., Davies, J.,

	Died	Improved	Total		
Strangulated Hernia	0 (0.0%)	1 (1.6%)	1	0.375	0.540
CHPs	0 (0.0%)	2 (3.3%)	2	0.760	0.383
Torsion	0 (0.0%)	1 (1.6%)	1	0.375	0.540

*Chi square test, TOF: tracheooesophageal fistula, CDH: congenital diaphragmatic hernia, HSD: Hirschsprung disease, CHPs: congenital hypertrophic pyloric stenosis.

Table (3) shows that mortality was significantly increased in neonates with TOF, CDH and exomphalos (p= 0.003, 0.006 and 0.023 respectively). On the contrary, all patients with isolated anal anomaly (e.g. isolated anal atresia) survived (p= 0.04). All other diagnoses showed no significant correlation with patient outcome (p> 0.05 for all diagnoses).

Table (4) Comparison between outcome and demographic data, managing surgery team and affected system

		Died	Improved	Test Value	P- Value
		No= 23	No= 23		
Age on admission (days)	Median (IQR)	4 (2- 9)	4.5 (2- 15)	0.919≠	0.358
	Range	1- 15	1- 28		
Gender	Male	15 (65.2%)	38 (61.3%)	0.110*	0.740
	Female	8 (34.8%)	24 (38.7%)		
Gestational Age (Weeks)	Mean± SD	37.00± 1.38	37.03± 1.32	0.099•	0.921
	Range	35- 40	32- 39		
Term	Preterm	12 (52.2%)	10 (16.1%)	11.362*	0.001
	Full Term	11 (47.8%)	52 (83.9%)		
System Affected	GIT	21 (91.3%)	33 (53.2%)	10.499*	0.001
	Neurosurgery	1 (4.3%)	9 (14.5%)	1.671*	0.196
	Orthopedics	0 (0.0%)	7 (11.3%)	2.830*	0.092
	Renal Problem	0 (0.0%)	4 (6.5%)	1.557*	0.212
	Cardiac Surgery	0 (0.0%)	1 (1.6%)	0.375*	0.540
	Gonadal	0 (0.0%)	4 (6.5%)	1.557*	0.212
	ENT	0 (0.0%)	1 (1.6%)	0.375*	0.540
	Skin	0 (0.0%)	2 (3.2%)	0.760*	0.383
	Oncology	1 (4.3%)	1 (1.6%)	0.546*	0.459

*: Chi- square test; ≠: Mann- Whitney test; •: Independent t- test, GIT: gastrointestinal tract, ENT: Ear, Nose And Throat.

Table (4) shows that among the demographic variables, gestational age was the only contributing factor of mortality with mortality, where preterms had significantly higher mortality compared to full term neonates (p=0.001). As for mortality per affected system, 91% of the whole study deaths (21/ 23) occurred in neonates with a gastrointestinal pathology, whose presence significantly correlated with poorer outcome (p=0.001).

Table (5) Comparison between patients' clinical data and outcome

		Died	Survived	Test Value	P- Value
		No.= 23	No.= 62		
Surgical Intervention	No	2 (8.7%)	7 (11.3%)	0.119*	0.730
	Yes	21 (91.3%)	55 (88.7%)		
Wound	No	11 (52.4%)	39 (70.9%)	2.318*	0.128
	Yes	10 (47.6%)	16 (29.1%)		
Central Line Insertion	No	2 (8.7%)	34 (54.8%)	14.630*	0.000
	Yes	21 (91.3%)	28 (45.2%)		
Ventilation> 48 Hours	No	3 (13.0%)	49 (79.0%)	30.758*	0.000
	Yes	20 (87.0%)	13 (21.0%)		
Length Of Stay	Median (IQR)	13 (6- 17)	15.5 (10- 22)	2.025≠	0.043
	Range	1- 55	1- 127		

*: Chi- square test; ≠: Mann- Whitney test.

Table (5) shows that mortality was highly significantly encountered among patients with inserted central lines and those who were on invasive mechanical ventilation> 48 hrs (p=0.000 for both). Surgical intervention and wound infection were not implicated in the poor outcome (This is not correlation with outcome) (p= 0.730 and 0.128 respectively). Survived neonates were admitted for a significantly longer period than died neonates (p= 0.043).

Table (6) Multivariate logistic regression analysis for predictors of mortality

	B	S.E.	Wald	P- Value	Odds Ratio (Or)	95% C.I. for OR	
						Lower	Upper
Central Line Insertion	-0.015	1.278	0.000	0.991	0.985	0.081	12.050
Mv >48 Hours	2.898	1.106	6.863	0.009	18.130	2.074	158.457
GIT	1.332	0.882	2.280	0.131	3.787	0.672	21.335

MV: Mecahnical ventilation, GIT: gastrointestinal tract

Table (6) shows regression analysis testing all the variables that correlated significantly with high mortality. Only mechanical ventilation> 48 hours remained significantly related to poor outcome (p= 0.009) compared to GIT surgery (p= 0.131) and central line insertion (0.991).

Discussion:

The current study aimed to evaluate the outcomes of neonatal surgery over a period of six months in a tertiary neonatal intensive surgery care unit. All included neonates had an underlying surgical problem and were treated either surgically or conservatively, based on their diagnosis, clinical status, hemodynamic stability and surgeons' decision.

Among the studied neonates, 22 were preterms (25.9%) and 63 were full terms (74.1%). Mortality was significantly higher in preterm babies compared to full terms. Likewise, Saggers et.al. (2020)[9] found in their study which included 205 neonates with surgical problems, that prematurity was a significant predictor of poor mortality (p=0.001).

In the current study, 50/ 76 (65.8%) operated babies had wound infection as a postoperative complication. Wound infection didn't correlate to final outcome and incidence didn't vary significantly between systems affected (except it was significantly lower in orthopaedics surgery p=0.045).

On the contrary, Abdelgawad et.al. (2022)[1] found that surgical wound infection was significantly correlated to mortality and longer hospital stay.

Interstingly, Segal et.al. (2014)[11] in their large study including 724 VLBW infants who had 1039 surgical intervention reported much lower incidence of wound infection. It varied between 4.3- 19/ 100 intervention as per the surgery site.

In the current study, the overall mortality was 27.1% (23/ 85), however, surgical intervention didn't correlate to mortality (p=0.730).

In a previous study from the NICU of the current study, El- Shimi et.al (2018)[5] reported an almost equal mortality rate of 27.9%, however, the number of annual admissions at the time of their study was much lower than current figure of annual admission. Also, there was no mention to mortality per specific diagnosis.

Furthermore, in a study measuring the burden of neonatal surgery in Uganda, Ullrich et.al. (2020)[13] examined 1313 neonatal surgery admissions. They reported an overall mortality of 36%, with postoperative mortality of 24%. This means that 12% of deaths occurred before any

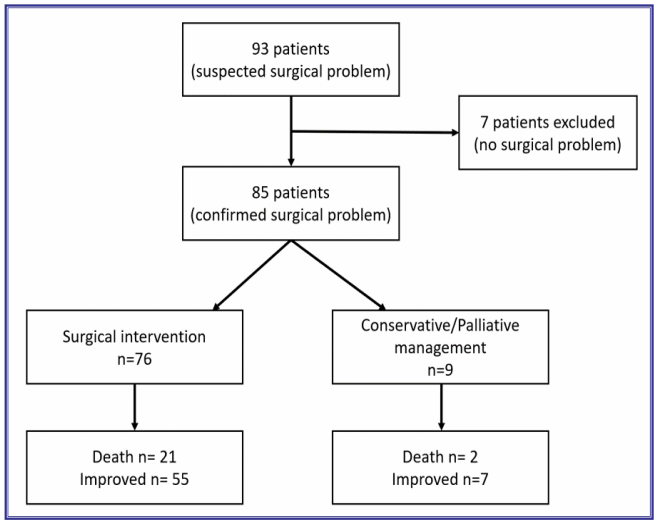

Figure (1) CONSORT flow chart

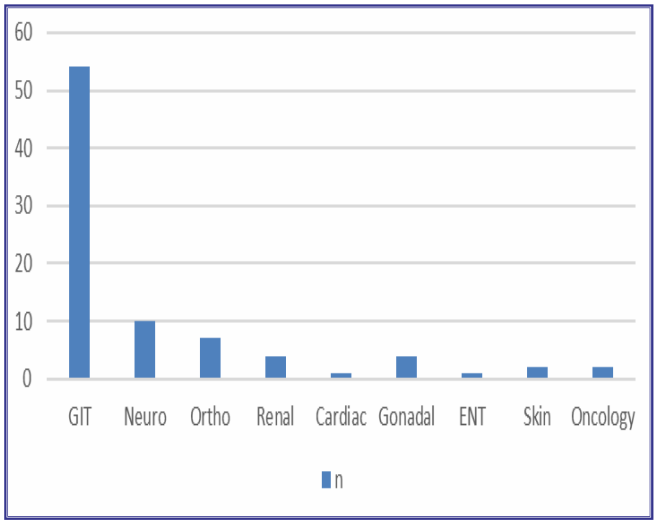

Figure (2) Distribution of patients per systems affected.

Table (1) Demographic data, NICU stay and patients' outcomes (No= 85)

Age on admission (days)	Median (IQR)	4 (2- 12)
	Range	1- 28
Gender	Male	53 (62.4%)
	Female	32 (37.6%)
Gestational Age (Weeks)	Mean± SD	37.02± 1.33
	Range	32- 40
Gestation	Preterm	22 (25.9%)
	Full Term	63 (74.1%)
Teams	Pediatric Surgery	67 (78.8%)
	Neurosurgery	10 (11.8%)
	Orthopedics	7 (8.2%)
	ENT	1 (1.2%)
Surgical Intervention	No	9 (10.6%)
	Yes	76 (89.4%)
Wound Infection	No	50 (65.8%)
	Yes	26 (34.2%)
Central Line Insertion	No	36 (42.4%)
	Yes	49 (57.6%)
Ventilation >48 Hrs	No	52 (61.2%)
	Yes	33 (38.8%)
Length of stay (days)	Median (IQR)	15 (9- 21)
	Range	1- 127
Outcome	Died	23 (27.1%)
	Improved	62 (72.9%)

ENT: ear, nose and throat

Table (1) shows the demographic data, clinical status during hospital stay and patients' outcomes. Eighty- five patients had at least one confirmed surgical diagnosis. 53 (62.4%) were males and 37.6% were females. 74.1% were born at term and 25.9% were preterm with overall mean gestational age 37.02± 1.33 weeks range (32- 40). From the 85 studied neonates, 33 (38.8%) and 49 (57.6%) babies required mechanical ventilation> 48 hours and insertion of central line respectively. Seventy-six (89.4%) were operated upon while nine patients were treated either conservatively (n=7) or palliatively (n=2) for poor general condition not allowing surgical intervention. Only 18 patients (21.2%) required specialized surgical intervention. Out of the 76 operated upon babies, 50 patients (65.8%) had wound infections. The median hospital stay was 15 days range (1- 127) days. Overall mortality was 27% (23/ 85). The distribution of patients per their affected system is shown in figure (2).

Table (2) Incidence of postoperative wound infection per operating teams and per system:

		No Wound Infection	Wound Infection	Test Value*	P- Value
		No.= 50	No.= 26		
Teams	Pediatric Surgery	36 (72.0%)	22 (84.6%)	1.506*	0.220
	Neurosurgery	6 (12.0%)	4 (15.4%)	0.171*	0.679
	Orthopedics	7 (14.0%)	0 (0.0%)	4.009*	0.045
	ENT	1 (2.0%)	0 (0.0%)	0.527*	0.468
System	GIT	29 (58.0%)	18 (69.2%)	0.914*	0.339
	Neuro	6 (12.0%)	4 (15.4%)	0.171*	0.679
	Orthopedics	7 (14.0%)	0 (0.0%)	4.009*	0.045
	Renal	2 (4.0%)	1 (3.8%)	0.001*	0.975
	Cardiac	1 (2.0%)	0 (0.0%)	0.527*	0.468
	Gonadal	1 (2.0%)	2 (7.7%)	1.462*	0.227
	ENT	1 (2.0%)	0 (0.0%)	0.527*	0.468
	Skin	1 (2.0%)	1 (3.8%)	0.228*	0.633
	Oncology	2 (4.0%)	0 (0.0%)	1.068*	0.301

ENT: ear, nose and throat, GIT: gastrointestinal tract *: Chi- square test.

Table (2) shows that there was no wound infection in orthopaedics surgeries (incidence= zero). All other systems show no statistical differences in incidence of postoperative wound infection (p> 0.05).

Table (3) Correlation between different diagnoses and outcome:

Diagnosis	Died	Improved	Total	Test Value*	P- Value
	No= 23	No= 23	N=85		
TOF	7 (30.4%)	4 (6.6%)	11	8.565	0.003
CDH	4 (17.4%)	1 (1.6%)	5	7.544	0.006
Anal Atresia/ Vestibular Anus	0 (0.0%)	10 (16.4%)	10	4.204	0.040
Meningomyelocele	0 (0.0%)	8 (13.1%)	8	3.276	0.070
Malrotation +/−Volvulus	2 (8.7%)	1 (1.6%)	3	2.472	0.115
Inguinal Hernia	0 (0.0%)	2 (3.3%)	2	0.760	0.383
Septic Arthritis	0 (0.0%)	7 (11.5%)	7	2.782	0.095
HSD	2 (8.7%)	3 (4.9%)	5	0.451	0.501
Esophageal Perforation	0 (0.0%)	4 (6.6%)	4	1.557	0.212
Exomphalos/ Umbilical Cord Hernia	4 (17.4%)	2 (3.3%)	6	5.131	0.023
Cloaca + Bladder Exstrophy	0 (0.0%)	2 (3.3%)	2	0.760	0.383
Obstructive Uropathy	0 (0.0%)	3 (4.9%)	3	1.154	0.282
Intracranial Hemorrhage	1 (4.3%)	1 (1.6%)	2	0.546	0.459
Choanal Atresia	0 (0.0%)	1 (1.6%)	1	0.375	0.540
Intestinal Atresia +/−Perforation	2 (8.7%)	3 (4.9%)	5	0.451	0.501
Ovarian Cyst	0 (0.0%)	1 (1.6%)	1	0.375	0.540
Breast Abscess	0 (0.0%)	2 (3.3%)	2	0.760	0.383
Oncology	1 (4.3%)	1 (1.6%)	2	0.546	0.459
Coarctation Of The Aorta	0 (0.0%)	1 (1.6%)	1	0.375	0.540

Background:

Neonates are a vulnerable, high- risk population, who require rapid and appropriate interventions with their illnesses. On several occasions, involvement of multidisciplinary specialized teams is mandatory.[10]

Neonatal surgery outcome is one of the parameters used for assessing the strength of healthcare systems as multiple factors could contribute to the neonatal surgical outcomes other than the surgery itself.[16] These factors include early detection of any surgical problem (antenatal or early neonatal), early intervention with appropriate support, neonatal referral and transport services, available units and trained personnel that could deliver the required level of care to very sick babies.[5]

Despite advances in neonatal care worldwide, the differences between outcomes in high income countries (HIC) and Low- and Middle- income countries (LMIC) are still huge with reported mortality data being around 5.6% in HIC, 20.4% in MIC and 39.8% in LIC.[15] These differences are related to the difficult circumstances in LMIC. Outcomes are poorer due to delayed presentation, poverty, very high rate of hospital acquired infections and unavailability of essential tools and trained personnel to deal with critical babies pre and postoperative.[16]

The majority of data coming from HIC units can't be replicated to or applied to less privileged countries.[4] From here arises the importance of continued database analysis and retrieval from tertiary units in LMIC as a start point for audits and quality improvement studies.

Aim of the Study:

To evaluate the outcome of the neonatal intensive surgery care unit, of Children Hospital of Ain Shams University from 01/ 2022- 06/ 2022 in a retrospective manner.

Patients& Methods:

This retrospective, observational study was conducted over a period of 6 months and was concerned with the outcomes of a dedicated neonatal surgery unit that provides pre and post operative surgical care in variable specialties (cardiothoracic, neurosurgery, general neonatal surgery and orthopedic surgery).

Study Settings:

Neonatal intensive care unit (NICU) of Children Hospital of Ain Shams University is a large tertiary unit with annual admissions of around 1000 neonates with medical and surgical pathologies. It provides various modes of mechanical ventilation including high frequency ventilation, in situ services (e.g., aEEG, point of care ultrasound, conventional& functional echo) and access to specialized services (e.g., catheter lab for cardiac interventions, peritoneal dialysis).

Ethical Consideration:

The study was approved by the ethical committee of Ain Shams University (R178/ 2022).

Patients& Methods:

- Eligibility and Enrollment: All babies admitted to surgery NICU during the study period with a provisional surgical problem were eligible for enrollment.
- Inclusion: Only neonates with confirmed surgical problems were included in the study.
- Exclusion: Babies who had missing key clinical data from their notes (e.g. surgical intervention, surgical diagnosis, outcome) were excluded.

Methods:

Paper medical notes and registration data of enrolled neonates were retrieved, reviewed and analyzed. Data included personal, maternal, obstetric, and perinatal histories, gestational age, gender, anthropometric measures, postnatal age on presentation, surgical diagnosis, intervention done (conservative or operation), type of operation, and risk factors to poor outcome during stay (mechanical ventilation> 48 hours, central line insertion> 48 hours, wound infection, neonatal sepsis).

Outcomes included length of NICU stay, final outcome (death or discharge) and causes of death.

Neonatal Surgery Teams:

In the current unit, most of the neonatal surgeries are done by the general pediatric surgery team. This includes abdominal surgeries, urinary surgeries, masses, abscesses, intestinal pathologies and atresias. Other specialized teams (neurosurgery, orthopedics surgery, cardiothoracic surgery) are involved on request. The main bulk of cardiac patients who require cardiothoracic surgery are looked after in another specialized unit.

Statistical Methods:

Data were collected, revised, coded and entered to the Statistical Package for Social Science (IBM SPSS) version 23. The quantitative parametric data was presented as mean, standard deviations and ranges while quantitative non- parametric data was presented as median and inter- quartile range (IQR). Qualitative variables were presented as number and percentages. Chi- square test and/ or Fisher exact test were used to compare qualitative data between groups when the expected count in any cell was found less than 5. The comparison between two independent groups with quantitative data and parametric distribution was done by using independent t- test while with non- parametric distribution were done by using Mann- Whitney test. Multi- variate logistic regression analysis was used to assess predictors of mortality. The confidence interval was set to 95% and the margin of error accepted was set to 5%. So, the p-value was considered significant at level of p- value< 0.05.

Results:

During the study period, 92 patients were admitted to the neonatal surgery intensive care unit, with a suspected surgical problem. Seven patients were excluded from the analysis as further investigations ruled out any underlying surgical problem. As per systems affected, 67 patients had a general surgical problem while 18 had specialized surgical pathology. Seventy six out of 85 patients (76/ 85) patients were operated upon. The overall mortality was 27% (23/ 85) Figure (1).

Outcomes of Neonatal Surgery in a Tertiary Neonatal Unit in Cairo

a Retrospective Study

د. تيسير مصطفي جاد
مدرس طب الأطفال، كلية الطب، جامعة عين شمس، القا مرة، مصر
د. غاده أحمد
مدرس طب الأطفال، كلية الطب، جامعة عين شمس، القا مرة، مصر

Tayseer Mostafa Gad,[(1)]
Ghada Ahmad Saleh[(1)]
[(1)]Pediatrics Departments, Faculty of Medicine,
Ain Shams University, Egypt

Summary

Background: Neonatal surgery outcome is one of the parameters used for assessing the strength of healthcare systems. Despite advances in neonatal care worldwide, the differences between neonatal surgery outcomes in developed and developing countries are still huge.

Aim: To retrospectively evaluate the outcome of the neonatal intensive surgery care unit, of Children Hospital of Ain Shams University during the period from 01/ 2022- 06/ 2022.

Patients& Methods: Medical records of all babies admitted to surgery NICU during the study period with a provisional surgical problem were eligible for enrollment. Only neonates with confirmed surgical problems were included in the study. Neonates whose notes were missing key clinical were excluded.

Results: Eight five neonates were included, 53 (62.4%) males and 32 (37.6%) females. Twenty two were preterms (25.9%) and 63 were full terms (74.1%). Seventy- nine patients (78.8%) were managed by general neonatal surgeons and 11.2% required specialized neonatal surgery care. Seventy- six (89.4%) had surgical operations and 9 (10.6%) were managed conservatively or palliatively. Tracheooesophageal fistula (TOF) and isolated anal pathology were the most common diagnoses (12.9%& 11.7% respectively). The overall mortality was 27% (23/ 85). Congenital diaphragmatic hernia and TOF were both significantly correlated to mortality (p=0.006& 0.003 respectively). The mortality was significantly correlated to prematurity (p=0.001), invasive ventilation > 48 hours (p=0.000), central line insertion during their stay (p=0.000) and abdominal surgery (p=0.001). Regression analysis for prediction of mortality showed that invasive ventilation was the single factor that significantly correlated to poor outcome (p=0.009).

Conclusion: Our study might indicate that prematurity, GIT pathology, invasive ventilation> 48 hrs and insertion of central line were correlated with higher mortality. However, further prospective studies are highly recommended to confirm their exact impact and the causation relation to neonatal outcome.

Key words: LMIC, neonatal mortality, neonatal surgery, HIC, NICU.

دراسة إحصائية بأثر رجع عن نتائج مرضي الجراحة في وحدة حديثي الولادة في القاهرة

مقدمه: يعتبر الأطفال حديثي الولادة فئة عمريه معرضه للمخاطر وغالبا ما يحتاجون (في حاله مرضهم) إلى تدخلات سريعة ومناسبة. وفي مواضع عديده، يلزم وجود فرق طبيه متعددة التخصصات. وتعد نتائج جراحة الأطفال حديثي الولادة إحدى المعايير المستخدمة لتقييم مستوي الرعاية المقدمة للأطفال حديثي الولادة، ليس فقط لتخصص حديثي الولادة، ولكن أيضا لنظام الرعاية الصحية بأكمله.

الهدف: التقييم بأثر رجعي لنتائج وحدة جراحة حديثي الولادة بمستشفى الأطفال بجامعة عين شمس على مدى ٧ أشهر من يناير ٢٠٢٢ وحتي يونيه ٢٠٢٢.

المرضي و سرق البحث: جرت هذه الدراسة الاستطلاعية بأثر رجعي على مدى ٧ أشهر في الجراحة بوحدة جراحة حديثي الولادة بمستشفي الاطفال، جامعة عين شمس. وقد تم تحليل سجلات الأطفال الذين تأكد معاناتهم من مشكلة جراحية مطابقة خلال أول ٢٨ يوما من حياتهم وذلك عن طريق استرداد المذكرات الطبية الورقية وبيانات التسجيل للولدان ومراجعتها وتحليلها.

النتائج: تم تضمين خمس وثمانون طفل (٥٣ ذكور (٦٢,٤%) و٣٢ إناث (٣٧,٦%))، خضع ٧٦ منهم لعملية جراحية و٩ (١٠,٦%) تمت معالجتهم بشكل متحفظ أو تلطيفي. وقد احتاج ١١,٢% إلى رعاية جراحية متخصصة. كان الناسور الرغامي المريئي (TOF) وأمراض الشرج أكثر التشخيصات شيوعا (١٢,٩% و١١,٧% على التوالي). كان معدل الوفيات الإجمالي ٢٧% (٢٣/ ٨٥). زادت نسبه وفاه الطفال الذين عانوا من وجود فتق الحجاب الحاجز الخلقي والTOF وكون الطفل مبسترا والاحتياج الي جهاز التنفس الصناعي لأكثر من ٤٨ ساعة بشكل كبير. وقد أظهر تحليل الانحدار للتنبؤ بالوفيات أن التهوية الغازية كانت العامل الوحيد المرتبط بزيادة احتمالية الوفاة.

الخلاصة: تشير دراستنا إلى أن الخداج والإصابه بعيوب خلقيه في الجهاز الهضمي، والاحتياج الي التنفس الصناعي الغازية> ٤٨ ساعة كانت مرتبطة بارتفاع معدل الوفيات. بناءا على ذلك، يوصى بإجراء المزيد من الدراسات المستقبلية لتأكيد العلاقة السببية بنتائج حديثي الولادة الذين يعانون من امراض جراحيه.

Accepted at: 4/ 12/ 2022